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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/324,304	06/02/1999	ZHENYU WANG	CASE2	1360

22186 7590 04/26/2004

MENDELSON AND ASSOCIATES PC  
1515 MARKET STREET  
SUITE 715  
PHILADELPHIA, PA 19102

EXAMINER

BAYARD, EMMANUEL

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 04/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/324,304

Applicant(s)

WANG, ZHENYU

Examiner

Emmanuel Bayard

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 February 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

This is in response to communication filed on 2/24/03 in which claims 1-50 are pending. The applicant's amendments have been fully considered but they are moot based on the new ground of rejection.

#### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-50 are rejected under 35 U.S.C. 102(b) as being anticipated by Lane U.S. Patent No 5,381,450.

As per claims 1, 20-21, 37, 42, 47 Lane discloses a receiver for identifying a message based upon a received signal, the receiver comprising: a processor that generates a minimum threshold and a maximum threshold representing a range for each of a plurality of possible message levels (see fig.5 element 500 and col.8, lines 3-28) wherein the sizes of the ranges are different for at least two of the message levels, and a comparator that identifies the message by comparing the received signal with the generated minimum and maximum thresholds (see fig.5 elements 512, 514, 516, 518 and col.8, lines 1-67).

As per claims 2-4, 22-24, 48-50, Lane inherently includes interrelationship between noise and the message level.

As per claims 5-6, 25, 32-33, Lane's probability density function inherently includes selecting signal exceeds a selected probability.

As per claims 7-9, 27-31, Lane includes calculating the locations, widths and positions of each peak levels is the same as the claimed (calculating the distance  $d(i)$ ) (see col.3, lines 25-40 and col.4, lines 55-61 and col.5, lines 5-21 and col.9, lines 31-45). Calculating the distance according to an equation is inherent.

As per claims 26, 34-36, Lane inherently includes a calculation mean.

As per claim 10, Lane discloses a method of forming a constellation design having a selected number of (i) message levels, the constellation design forming part of a receiver that identifies a transmitted message based upon a received signal, the method comprising: determining a minimum threshold and a maximum threshold representing a range for each of a plurality of possible signal levels (see fig.5 element 500 and col.8, lines 3-28) and calculating the locations, widths and positions of each peak levels is the same as the claimed (calculating the distance  $d(i)$  between the maximum threshold for possible signal level (i) and the minimum threshold for possible signal level (i+1)) (see col.3, lines 25-40 and col.4, lines 55-61 and col.5, lines 5-21 and col.9, lines 31-45).

As per claims 11-12, Lane's probability density function inherently includes selecting signal exceeds a selected probability.

As per claims 13-16, Lane includes calculating the locations, widths and positions of each peak levels is the same as the claimed (calculating the distance  $d(i)$ ) (see col.3, lines 25-40 and col.4, lines 55-61 and col.5, lines 5-21 and col.9, lines 31-45). Calculating the distance according to an equation is inherent.

As per claim 17-19, Lane inherently includes a calculation mean.

As per claim 38, Lane discloses a receiver for identifying a message based upon a received signal, the receiver comprising: a processor that generates a minimum threshold and a maximum threshold representing a variable range for each of a plurality of possible message levels (see fig.5 element 500 and col.8, lines 3-28) and a comparator that identifies the message by comparing the received signal with the generated minimum and maximum thresholds (see fig.5 elements 512, 514, 516 518 and col.8, lines 1-67), wherein the minimum and maximum thresholds define a range wherein the probability (see abstract and figs.2-4) of correctly receiving a selected signal exceeds a selected probability  $P_0$ .

As per claims 39-41, 43-46, Lane discloses a method of forming a constellation design having a selected number of (i) message levels, the constellation design forming part of a receiver that identifies a transmitted message based upon a received signal, the method comprising: determining a minimum threshold and a maximum threshold representing a variable range for each of a plurality of possible signal levels, (see fig.5 element 500 and col.8, lines 3-28) and calculating the locations, widths and positions of each peak levels is the same as the claimed (calculating the distance  $d(i)$  between the maximum threshold for possible signal level (i) and the minimum threshold for possible signal level (see col.3, lines 25-40 and col.4, lines 55-61 and col.5, lines 5-21 and col.9, lines 31-45), wherein the determining step comprises the steps of: identifying a probability density function for each possible signal level  $Y$ , and identifying the minimum and maximum thresholds (see col.4, lines 45-67 and col.5, lines 145) as the boundaries of a range in the identified probability density function wherein the probability of correctly receiving a selected message level exceeds a selected probability  $P_0$  (see abstract and figs.2-4).

As per claim 48, Lane does includes wherein the sizes of the ranges are different for at least two of the message levels (see figs.2-4).

As per claim 49, Lane does includes, wherein the distances  $d(i)$  are different for at least two different- pairs of message levels (see figs.2-4 and col.5, lines 5-21).

As per claim 50, Lane does includes, further comprising the step of generating the minimum and maximum thresholds using transmitted training signals (see fig.5).

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Webb U.S. patent No 6,229,862 B1 teaches a selective clock recovery.

Leclair U.S. Patent No 4,829,194 teaches a device for detecting the variation of thickness.

Wender U.S. Patent No 5,761,251 teaches a Dual automatic gain control.

Meyer U.S. patent No 5,861,773 teaches a circuit for detecting the locked condition.

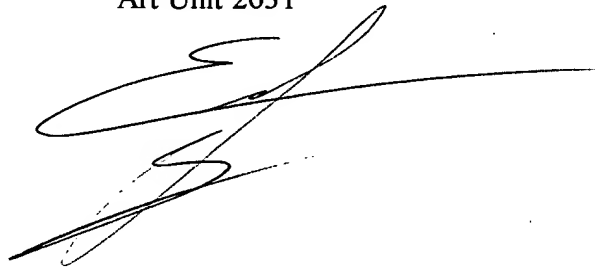
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Bayard whose telephone number is 703 308-9573. The examiner can normally be reached on Monday-Friday (7:Am-4:30PM) Alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammed Ghayour can be reached on 703 306-3034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Emmanuel Bayard  
Primary Examiner  
Art Unit 2631

Wednesday, April 21, 2004

A handwritten signature in black ink, appearing to be 'E. Bayard', with a long horizontal stroke extending to the right.